



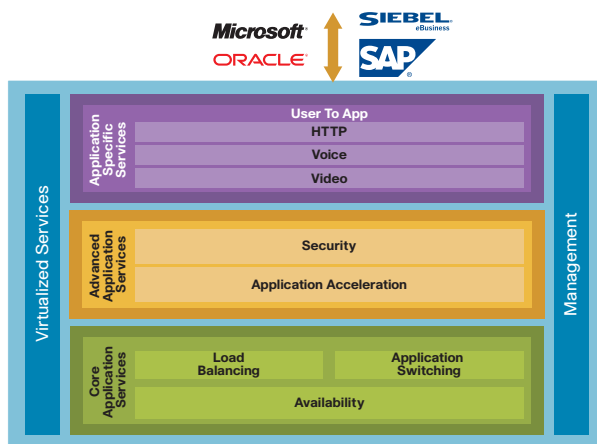
Overview

Cisco® ACE Application Control Engine application switches represent the state of the art in next-generation application switches for increasing the availability, performance, and security of data center applications.

The Cisco ACE family of application switches includes the Cisco ACE Service Module for the Cisco Catalyst® 6500 Series Switches and Cisco 7600 Series Routers, as well as the Cisco ACE 4710 Appliance in a standalone form factor for discrete data center deployments.

Through a broad set of load balancing and content switching capabilities, coupled with unique virtualized architecture (Figure 1) and granular user access control, Cisco ACE provides industry-leading time and cost reduction for application deployment, build-out, and performance or security enhancement. IT departments and end users benefit directly through faster application rollout, improved response time, and long-term investment protection.

Figure 1. Cisco ACE Product Family Architecture



- **Application availability:** To increase application availability, the Cisco ACE product family uses best-in-class Layer 4 load balancing and Layer 7 content switching algorithms coupled with highly available system software and hardware. Specifically, Cisco ACE provides a state-of-the-art failover system with an extensive set of application health probes that helps ensure that traffic is forwarded to the most available server. To help ensure data center availability, Cisco ACE is integrated with the industry-leading Cisco multiple data center availability system: the Cisco ACE Global Site Selector (GSS). Cisco GSS provides connection failover between data centers and helps ensure business continuity.
- **Application performance:** Cisco ACE is designed to accelerate the application experience for all users, whether they are in the office or on the road. To enable optimal application performance for remote and traveling users, Cisco ACE products use a range of acceleration capabilities to improve application response time, reduce bandwidth volume, and improve the efficiency of protocols. These technologies, including hardware-based compression, delta encoding, and Flash Forward, improve performance and reduce response time by minimizing latency and data transfers for any HTTP-based application, for any internal or external end user. Cisco ACE also improves server performance by caching and offloading Secure Sockets Layer (SSL) and TCP.
- **Security:** Cisco ACE is designed to serve as a last line of server defense. The Cisco ACE provides protection against application threats and denial-of-service (DoS) attacks with features such as deep packet inspection, network and protocol security, and highly scalable access control capabilities.

Customer Benefits of Cisco ACE Application Switches

The Cisco ACE family of application switches offers several important customer benefits, including the following:

- Reduced ongoing cost of application infrastructure and increased server efficiency
- Better end-user productivity through improved application availability and up to 500 percent faster response times
- Up to 400 percent lower power and cooling expenses
- Up to 75 percent more rapid application deployments and build-outs

Cisco ACE Application Switch Highlights

- **Virtual devices:** Virtualized architecture is a primary design element of the Cisco ACE, and is a unique advantage over other solutions in the marketplace. IT managers can configure up to 250 virtual devices that are secure and isolated from each other on a single Cisco ACE platform. The resulting benefits are far fewer devices to manage as application deployments grow, significantly lower power and cooling expenses, and faster time-to-service for new applications.
- **Role-based system administration:** Multiple departments or stakeholders can independently manage appropriate role-assigned tasks with Cisco ACE, reducing interdepartmental conflict and increasing productivity.
- **Best-in-industry performance and scalability:** Cisco ACE provides best-in-industry scalability and throughput for managing application traffic: up to 64 Gbps in a single Cisco Catalyst 6500 Series switch chassis.

- **Industry's highest-performance data center security:** Cisco ACE offers 1 million Network Address Translation (NAT) entries and 64,000 access control list (ACL) entries.

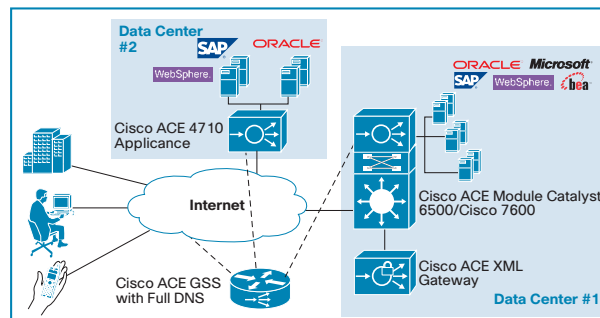
Return on Investment for Cisco ACE Application Switches

By consolidating data center infrastructure, for instance by reducing the number of servers and load balancers required, companies can save on capital expenditures (CapEx), such as hardware, software, and IT expenditures; and operating expenses (OpEx), such as rack space, power, and cooling costs and ongoing management cost of servers and infrastructure. Consolidation also improves application availability and performance, increasing end-user and IT productivity and employee satisfaction. Hence, the Cisco ACE solution offers customers excellent return on investment (ROI) through optimal total cost of ownership (TCO).

Cisco ACE Product Family Deployment

Typically, customers deploy the Cisco ACE family in data centers in front of multiple server farms (application, storage, or web servers) supporting many application types. As traffic is sent from clients to the data center servers, it passes through the Cisco ACE application switches for processing (Figure 2).

Figure 2. Cisco ACE Deployment



Cisco Application Networking Services: A Broad Product Portfolio

As part of the Cisco Data Center 3.0 strategy and solution set, Cisco Application Networking Services (ANS) products are purpose-built to help customers increase application uptime and security and improve the end-user experience.

Cisco ACE is part of the Cisco ANS portfolio, the industry's most comprehensive end-to-end application delivery solution for improving the performance, availability, and security of enterprise application deployments. The Cisco ANS portfolio includes technologies such as server load balancing, application switching, application security, WAN optimization, and Extensible Markup Language (XML) security and acceleration to enhance the full range of deployment scenarios, including branch-office, remote-worker, data center, and back-office application integration projects, all using a common foundation and enterprise quality.

For More Information

For more information about the Cisco ACE product family, visit <http://www.cisco.com/go/ace>.